

Claims

What is claimed is:

1. A vehicle trim panel installed in an interior of a motor vehicle, the trim panel comprising:
 - a first layer formed of a first material, such that the first layer is exposed to the interior of the motor vehicle;
 - a recycle layer formed of a second material wherein the recycle layer has a top surface and a bottom surface; and
 - a second layer formed of a third material positioned between the first layer and the top surface of the recycle layer.
2. The trim panel of Claim 1, wherein the trim panel further comprises a third layer disposed on the bottom surface of the recycle layer such that the recycle layer is sandwiched between the second layer and the third layer.
3. The trim panel of Claim 2, wherein the third layer is formed of the same material as the second layer.
4. The trim panel of Claim 1, wherein density of the second layer is greater than the density of the first layer and the recycle layer.
5. The trim panel of Claim 1, wherein the first material is selected from a group comprising of extruded polypropylene or spun bond polypropylene.
6. The trim panel of Claim 1, wherein the second material is selected from a group comprising of vinyl offal or natural fiber offal.
7. The trim panel of Claim 1, wherein the third material is a natural fiber mat composite wherein the natural fiber mat composite comprises natural fibers mixed with polypropylene fibers.

8. The trim panel of Claim 7, wherein the natural fibers are selected from a group comprising of kenaf, hemp, flax, jute or sisal.
9. The trim panel of Claim 1, wherein the second layer of the trim panel forms the substrate.
10. A method of forming a trim panel attached to the interior of a motor vehicle, the trim panel having a first layer, a second layer, a third layer and a fourth layer, the method comprising:
 - forming the second layer and the fourth layer by mixing nature fibers with polypropylene fibers in presence of a binder material;
 - forming the third layer by granulating a recylate material and adding to a top surface of the fourth layer;
 - sandwiching the third layer between the second layer and the fourth layer;
 - forming the first layer from a first material;
 - tacking on the first layer to a top surface of the second layer;
 - forming a pre-form comprising the first layer, the second layer, the fourth layer and the third layer sandwiched between the second layer and the fourth layer;
 - inserting the pre-form into a molding tool;
 - molding the pre-form to form the trim panel such that a chemical bond is formed between the first layer and the second layer.
11. The method of claim 10, further comprising selecting the natural fibers from a group consisting of kenaf, flax, jute or sisal.
12. The method of claim 10, further comprising selecting the recylate material from a group consisting of vinyl offal or natural fiber offal.
13. The method of claim 10, wherein the first material is selected from a group comprising of extruded polypropylene or spun bond polypropylene.

14. The method of claim 10, further comprising wherein during the step of molding of the pre-form the second layer and the fourth layer are compression molded such that the fourth layer is adaptable to be attached to an interior metal sheet of the motor vehicle.